

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
3 June 2004 (03.06.2004)

PCT

(10) International Publication Number
WO 2004/046793 A3

(51) International Patent Classification⁷: **G09G 3/36**,
3/20, G02F 1/133, H04N 5/66

(21) International Application Number:
PCT/KR2003/002514

(22) International Filing Date:
20 November 2003 (20.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10-2002-0072443
20 November 2002 (20.11.2002) KR

(71) Applicant (for all designated States except US): **SAM-
SUNG ELECTRONICS CO., LTD.** [KR/KR]; 416, Mae-
tan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 442-742
(KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **LEE, Seung-Woo**

[KR/KR]; Doksan Hyundai Apt. 102-1008, 293-10, Dok-
san1-dong, Keumcheon-ku, 153-844 Seoul (KR). **KIM,**
Young-Ki [KR/KR]; Sinmiju Apt. 102-702, Byeong-
jeom-ri, Taeon-eub, 445-974 Hwaseong-city, Kyungki-do
(KR). **LEE, Jung-Hee** [KR/KR]; Mangpomaeul Hyundai
1-cha IPark 109-802, 694, Mangpo-dong, Paldal-ku,
442-400 Suwon-city, Kyungki-do (KR).

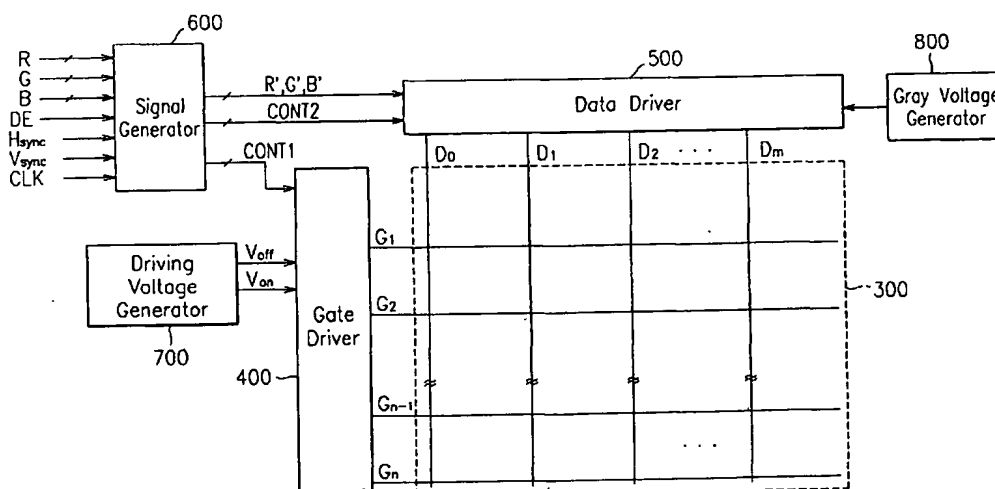
(74) Agent: **YOU ME PATENT & LAW FIRM**; Teheran
Bldg., 825-33, Yoksam-dong, Kangnam-ku, 135-080
Seoul (KR).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,

[Continued on next page]

(54) Title: **LIQUID CRYSTAL DISPLAY AND DRIVING METHOD THEREOF**



(57) Abstract: A device of driving a liquid crystal display including a plurality of pixels connected to gate lines and data lines and arranged in a matrix is provided. The driving device includes: a gray voltage generator (800) generating a plurality of gray voltages; an image signal modifier (600) receiving first image signals for a pixel row and second image signals for a next pixel row, selecting modified image signal depending on the first image signals and the second image signals, and outputting the modified image signals; and a data driver (500) selecting data voltages from the gray voltages based on the modified image signals from the image signal modifier and applying the data voltages to the pixels.